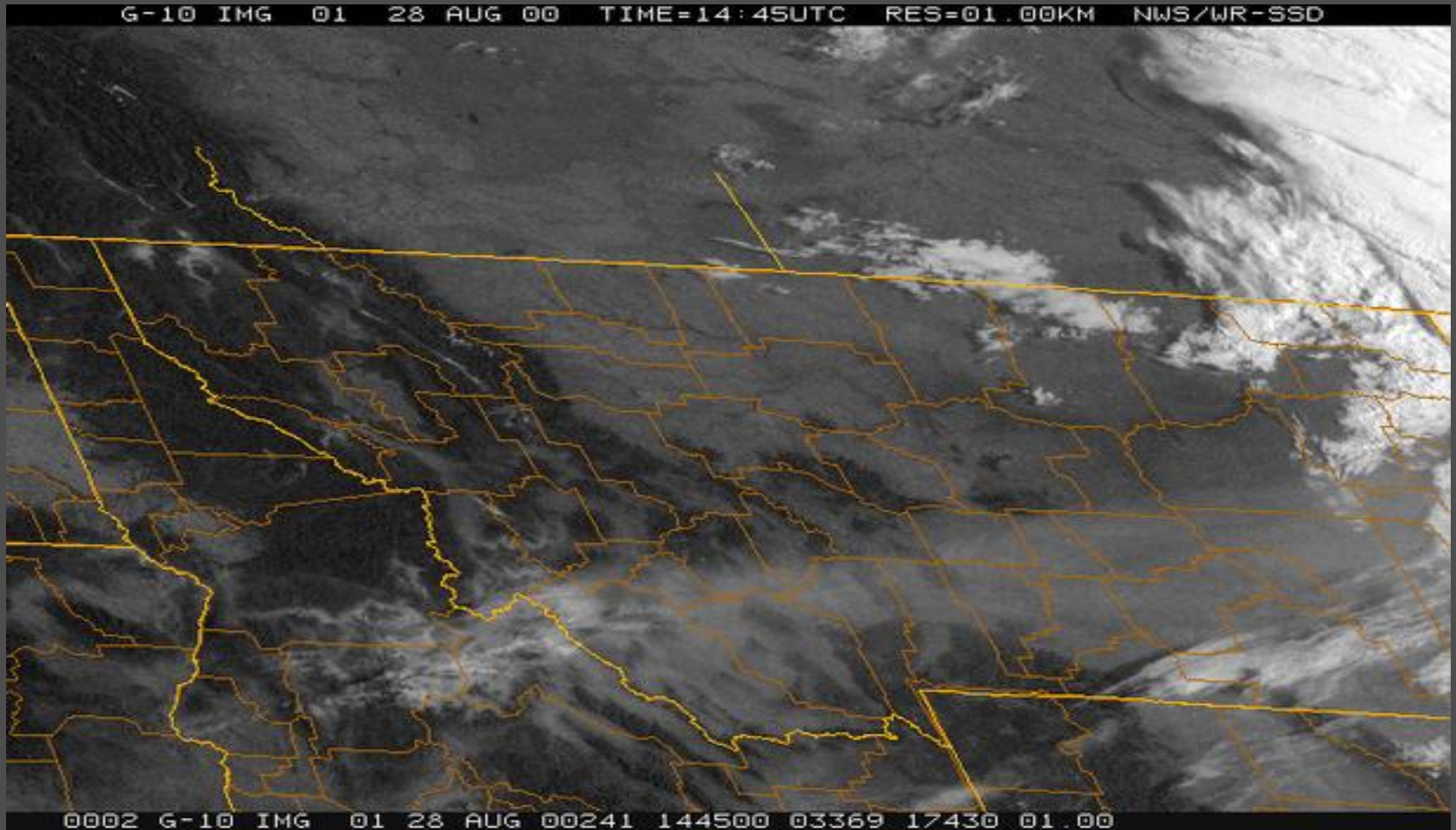


Air Quality in Ravalli County



Bob Jeffrey

Montana Department of Environmental Quality

Discussion Topics

- Ambient Air Quality Standards
- What is Particulate Matter (PM)?
- PM_{2.5} Air Pollution Sources
- Hamilton PM_{2.5} Air Pollution Data
- PM_{2.5} NAAQS Compliance Review
- Question and Answer Session

Ambient Air Quality Standards

- Primary Standards protect human health - including 'sensitive' populations with health issues, such as children and senior citizens.



Ambient Air Quality Standards

- Secondary Standards protect public welfare (e.g. crops, buildings, visibility)

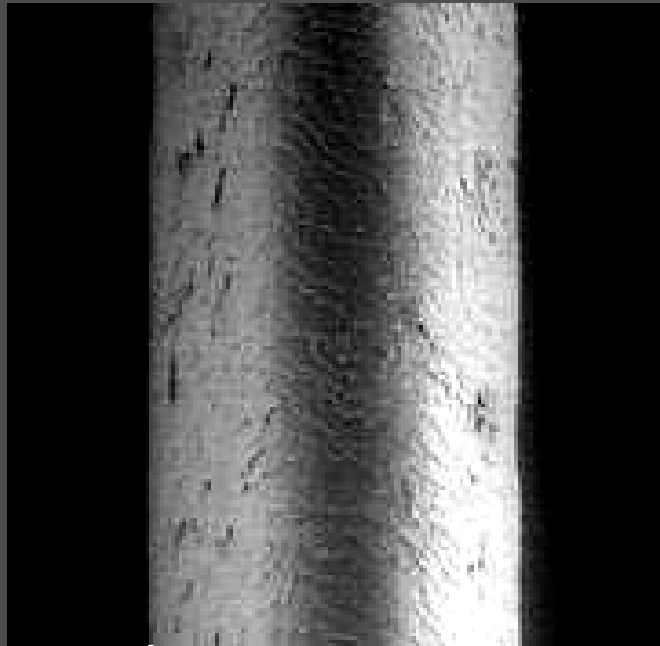


Current PM_{2.5} NAAQS

- Particulate Matter < 2.5 Microns
- 1997 NAAQS were revised
- Final rule effective 18 Dec. 2006
- 24-hour PM_{2.5} standard = 35 µg/m³
- Annual PM_{2.5} standard = 15 µg/m³

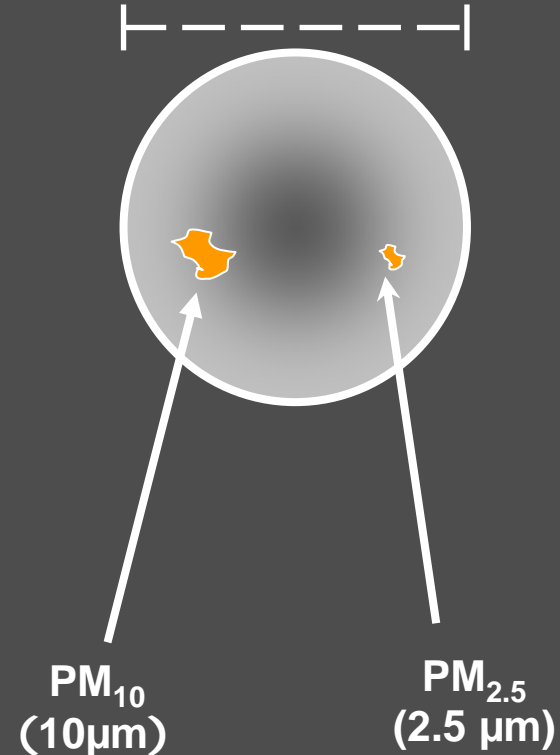
WHAT IS PARTICULATE MATTER?

- Complex mixture of extremely small solid particles and drops of liquid in the air



Human Hair (70 μm diameter)

Hair cross section (70 μm)



PM_{2.5} Air Pollution Sources

Wood-Burning Stoves



Power Plants



Heavy Duty Diesel Engines

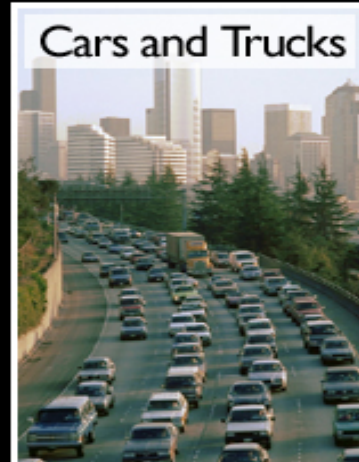


Natural Sources



**Fine Particles Can Be
Emitted Directly or Formed
in the Air from Gases**

Cars and Trucks



Non-Road Vehicles



Forest Fires



Industrial Sources

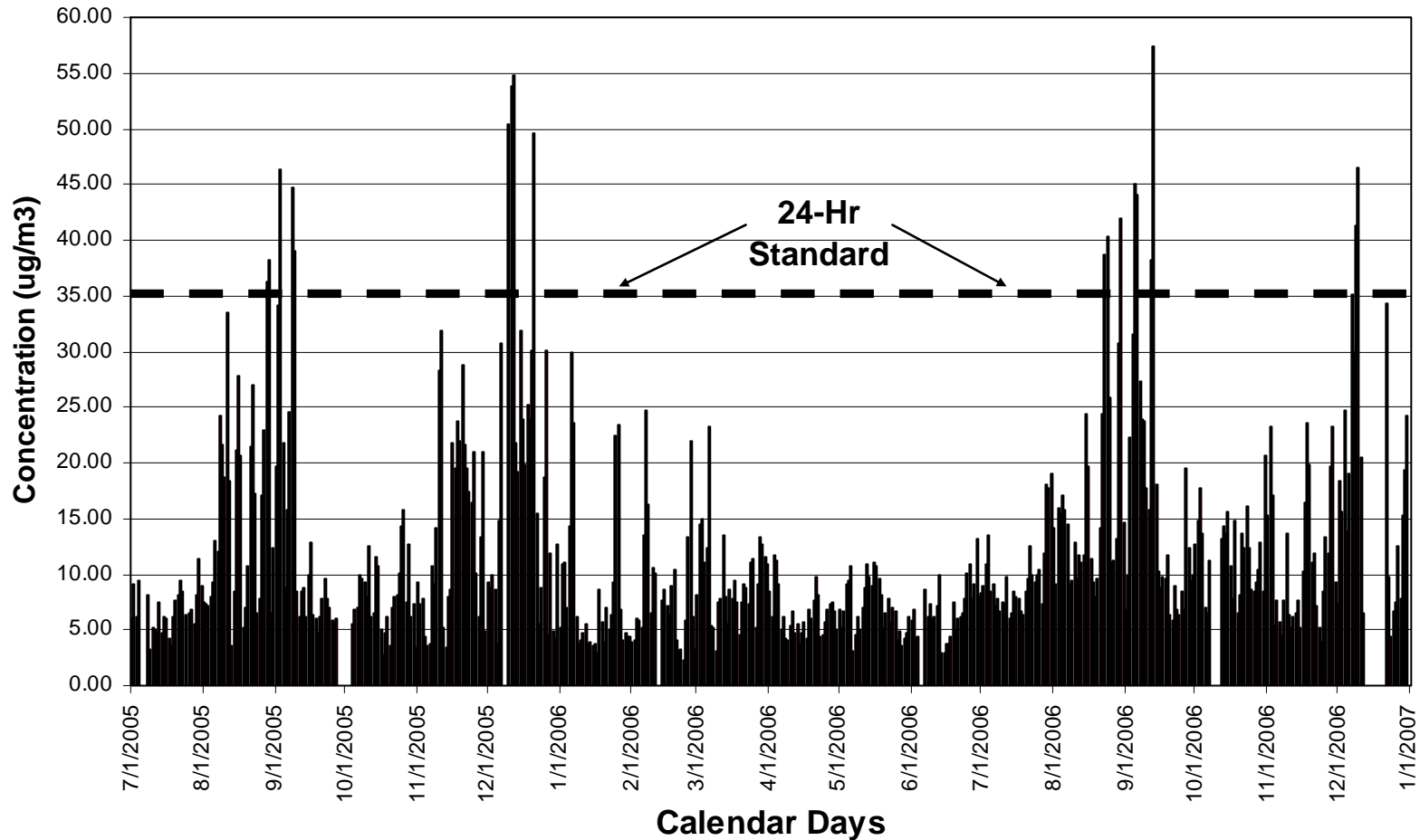




22/99

Hamilton - Daily PM2.5 BAM Averages

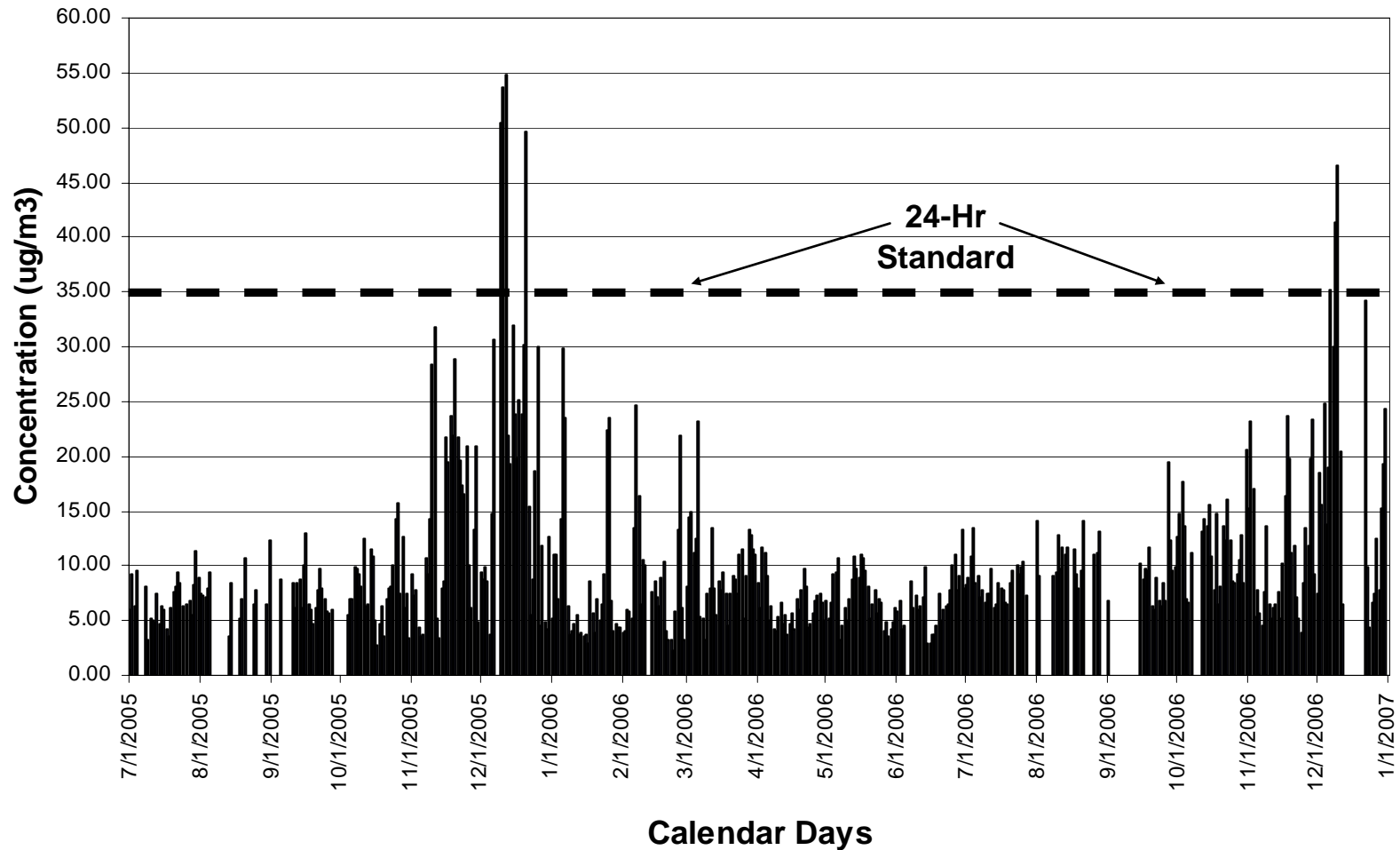
■ Includes any samples affected by wildfire smoke





Hamilton - Daily PM2.5 BAM Averages

Excludes any samples affected by wildfire smoke





9 February 2004

Hamilton FRM [PM_{2.5}] = 4.1 µg/m³



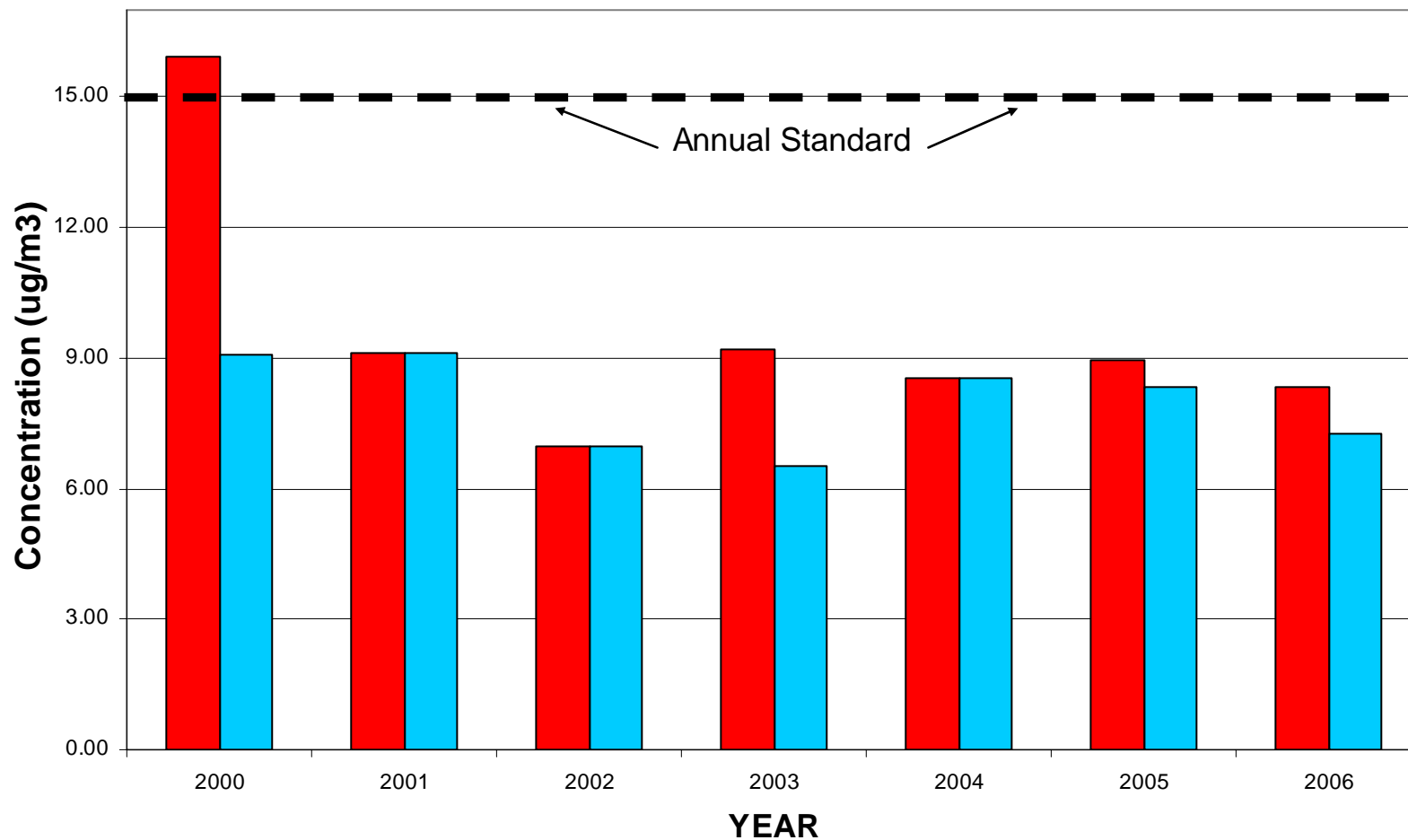
16 January 2004

Hamilton FRM [PM_{2.5}] = 45.5µg/m³

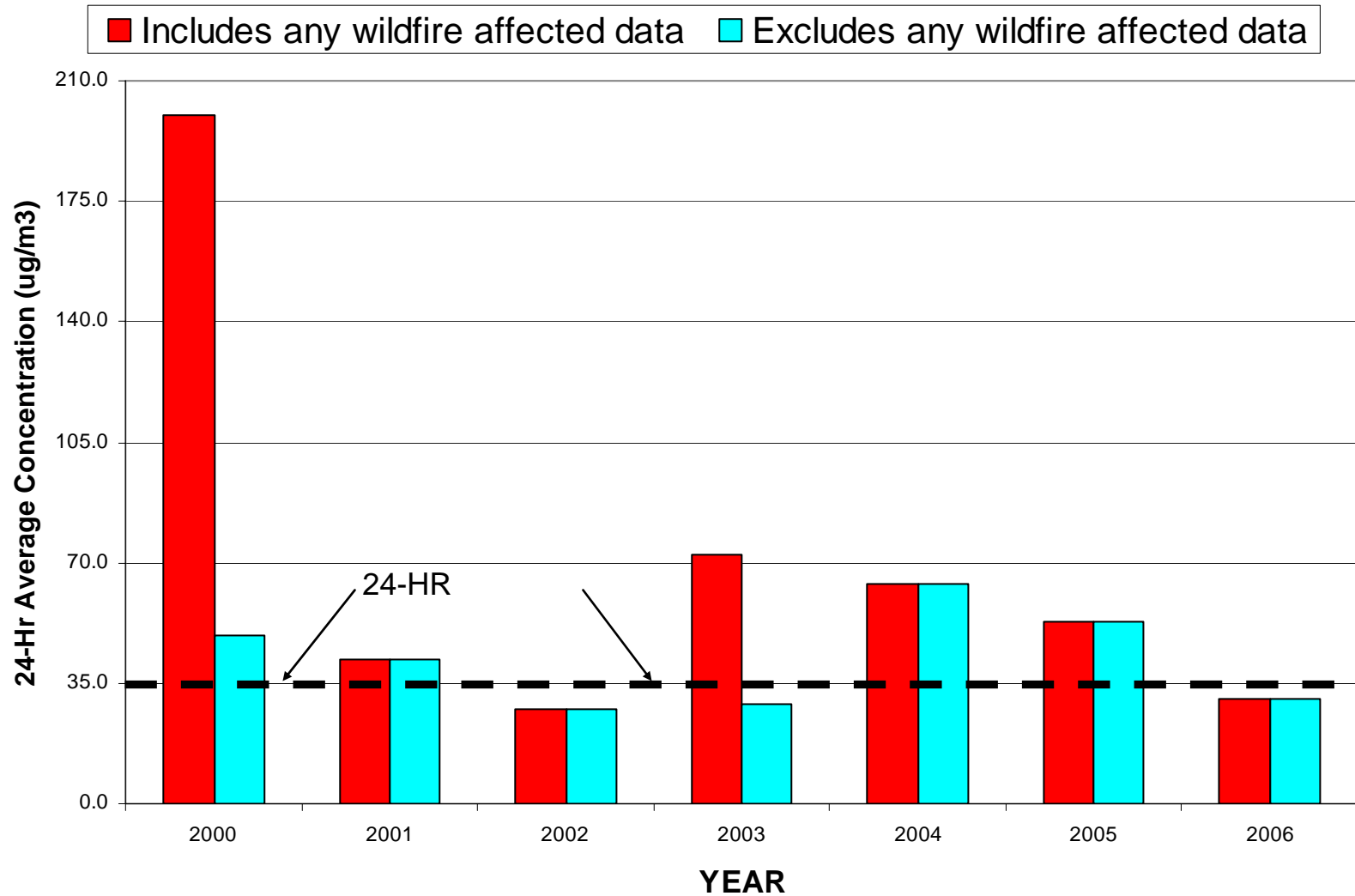


Hamilton - PM2.5 Annual Means

■ Includes any wildfire affected data ■ Excludes any wildfire affected data

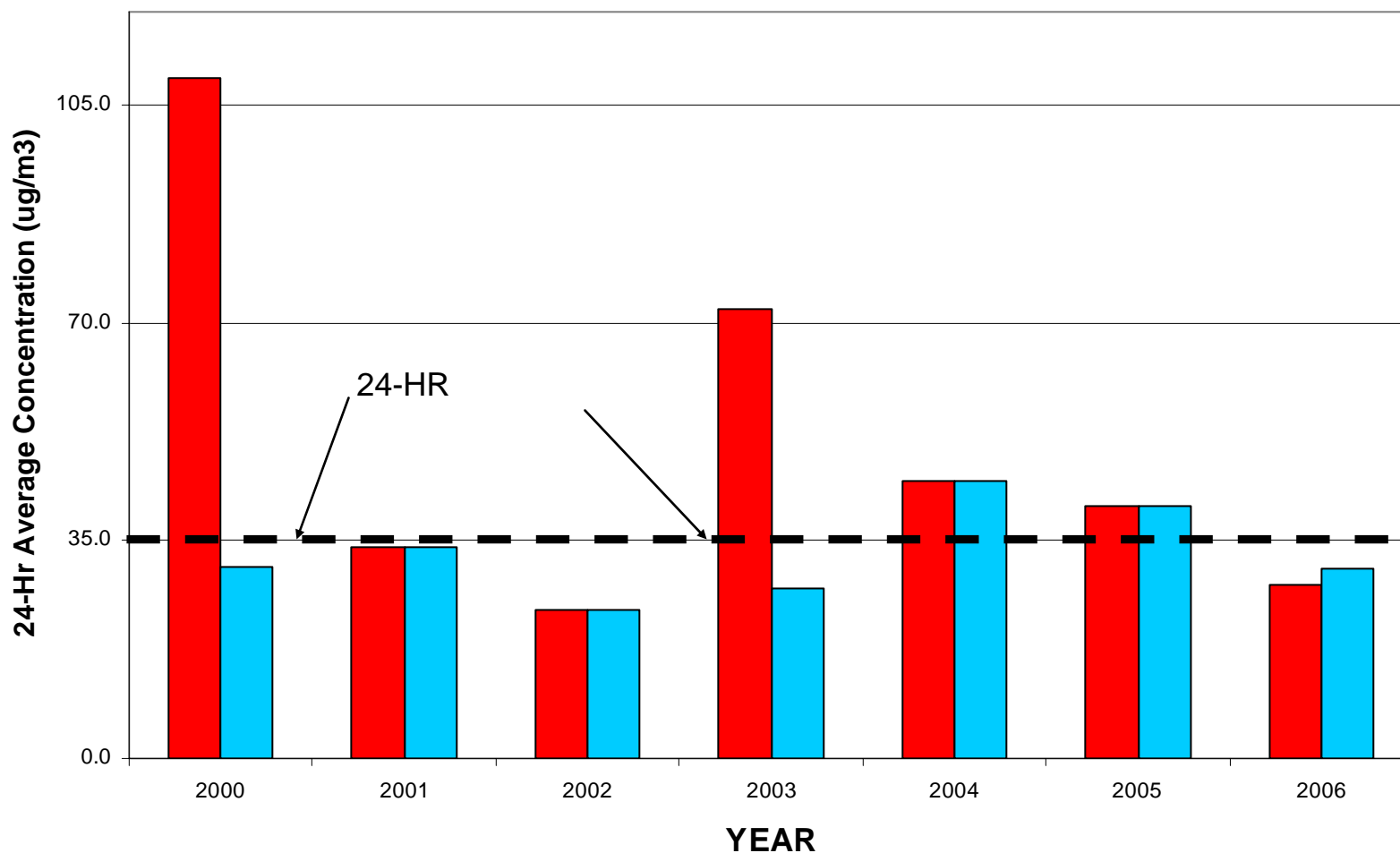


Hamilton - PM2.5 Daily Maximum Values



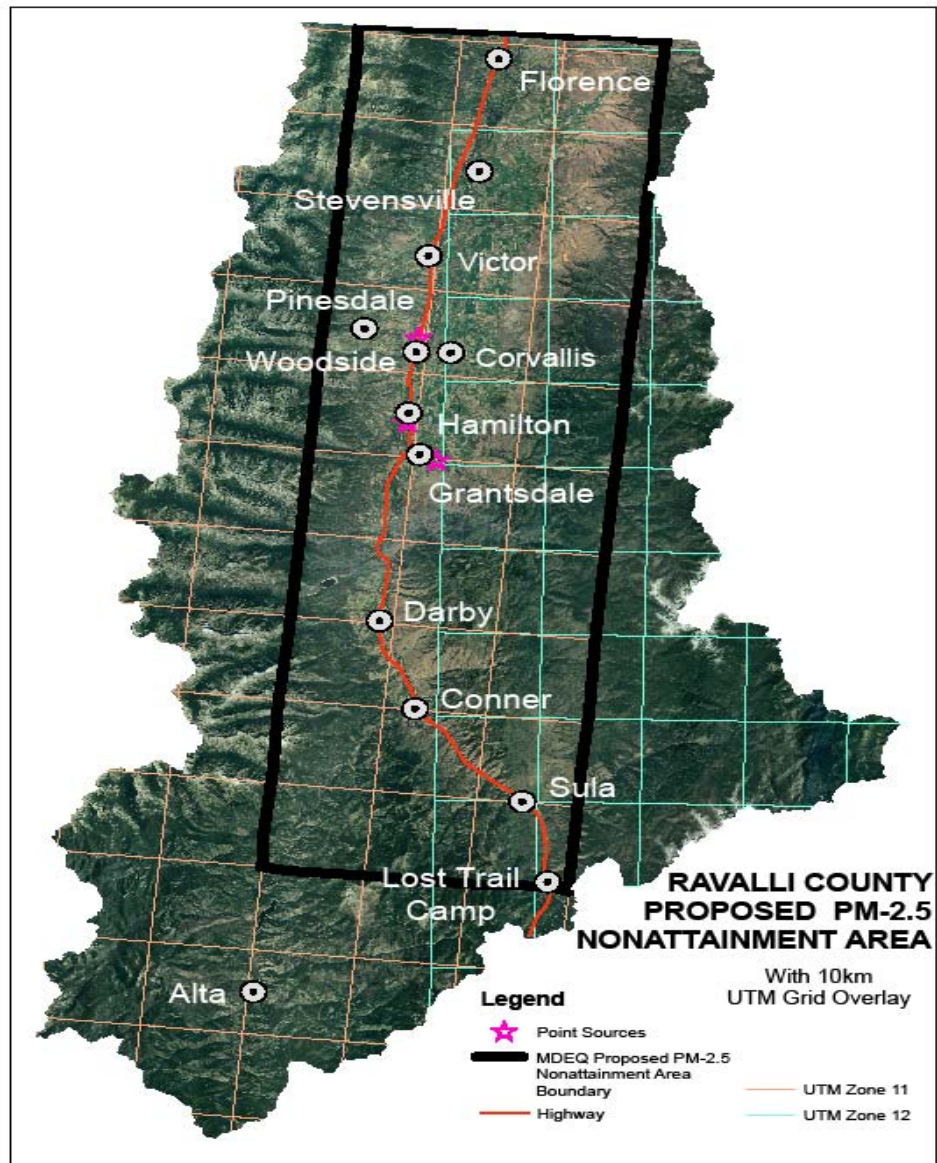
Hamilton - PM2.5 98th Percentile Values

■ Includes any wildfire affected data ■ Excludes any wildfire affected data



PM_{2.5} NAAQS Compliance Review

- 24-Hr Avg. for 2004-06 = 38.6 µg/m³
- 12/18/07: Montana submits NAA list to EPA
- 12/18/08: EPA makes final NAA decisions
- 4/27/10: Effective date for NAA designations
- 4/27/13: NAA cleanup plans due to EPA





Questions?

Robert K. Jeffrey

Montana Dept. of Environmental Quality

Air Resources Management Bureau

Telephone: 406-444-5280

Email: rjeffrey@mt.gov

<http://www.deq.mt.gov/AirQuality/AQinfo.asp>